

Docket No.: 392.1868

Serial No. 10/765,877

**AMENDMENTS TO THE DRAWINGS:**

The attached drawing(s) include a change to FIG. 6 to designate same by the legend - - PRIOR ART- -.

Approval of this change and entry of the corrected Drawing is respectfully requested.

**REMARKS**

In accordance with the foregoing, the original claims 1-5 have been amended to clarify salient features of the invention and new method claims 6-9 have been added. Further, the specification has been amended to correct typographical errors and to improve form. No new matter is presented and, accordingly, entry of the specification and claim amendments and the new claims are respectfully requested.

**PAGE 3: REJECTION OF CLAIMS 1-4 FOR ANTICIPATION UNDER 35 U.S.C. §102(b) BY SEQUIN ET AL. (U.S. PATENT 4,604,752)**

The rejection is respectfully traversed.

The Action purports to read the recitations of claim 1 on Sequin et al., but the demonstration is flawed and technically inaccurate.

Sequin et al., as set forth in the title, relates to “MAGNETIC STABILIZATION OF HIGH POWER GLOW DISCHARGES.” Each of the FIGS. 1-7 of the patent is characterized (see e.g., Brief Description of the Drawings in col. 3) as disclosing a magnetically stabilized coaxial electrode glow discharge module or other words to similar effect - - none thereof even purporting to teach a “gas laser oscillator” as is disclosed and claimed in the present application.

The reference does teach applying a magnetic field to an electrode discharge section in a direction different from the direction of the electric discharge and col. 4, lines 16-20 does support that relationship of the electric versus electric magnetic fields. However, the Examiner’s reading also asserts support in Sequin for the claim 1 recitation of “such that one of intensity and direction of the magnetic field is changeable” at col. 5, line 67-col. 6 and at col. 7, lines 29-39. Nowhere in these cited locations is there any support or teaching that “the magnetic field may be adjusted... to thereby change a lateral mode of a laser output....” Indeed, neither of the words “lateral” and “mode” even appears in the specification or claims of Sequin et al.

There is no disclosure of changing a lateral mode. Instead, the Examiner substitutes his own contentions of how Sequin inherently must function - - e.g., asserting:

(the system and components of the invention are present, therefor the system would inherently function in a manner which would allow for control of the lateral mode of the laser output).

(Action at page 3, last three lines; emphasis added.)

The Examiner is requested to supply evidence that supports the Examiner's theory that Sequin would "inherently function" to allow for control of the lateral mode of the laser output." - - absent which, the rejection necessarily should be withdrawn.

The disclosure from col. 6 through col. 7 of Sequin, as in the introduction to the specification, points only to stabilization of the discharge as the benefit achieved. Indeed, the Sequin claims as well confirm that to be the scope of the Sequin teaching - - e.g., each of the independent claims 1, 15 and 30 recites "a glow discharge device..." and in the case of claim 1, a method "of stabilizing said device against electrode thermal instabilities and electrode induced instability...". Apparatus claim 15 further recites: "an electromagnet... which establishes a profiled magnetic field across said electric field..." Apparatus claim 30 merely recites: at least one three phase AC profiled magnetic field winding en-circling said vessel...."

Nowhere is there any teaching of changing the intensity of the magnetic field and particularly none directed to changing a lateral mode of an output of a gas laser oscillator.

**PAGE 4-5: REJECTION OF CLAIM 5 FOR OBVIOUSNESS UNDER 35 U.S.C. §103(a) OVER SEQUIN IN VIEW OF YAMANE ET AL. (U.S. PATENT 5,450,435)**

The rejection is respectfully traversed.

In rejecting claim 5, the Action alludes to Sequin as teaching the discharge device "as outlined in the objection (*sic*-rejection?) to claim 1, but does not teach the use of multiple discharge sections." (Action at page 5)

Applicants respectfully traverse the rejection. The foregoing has demonstrated that Sequin does not teach a gas laser oscillator discharge device of the invention as claimed herein. Yamane et al. clearly is incapable of overcoming the deficiencies of Sequin. On these bases alone, the rejection is defective and should be withdrawn.

The Action, moreover, is devoid of any *prima facie* demonstration of obviousness of the combination being asserted. Indeed, the Action relies merely on the discredited contention of "it would have been obvious... to combine" the two - - references, which is altogether discredited as inadequate. MPEP 2143-2143.03.

Moreover, Yamane, in its own disclosure, refutes the very contention which the Action espouses. In cols. 1 and 2 through col. 3, line 30, Yamane points out how innumerable different structures of prior art radio frequency/microwave laser oscillators are deficient, do to a variety of structural and electrical inadequacies including "non-discharge areas" in various circular cross-sections of the discharge tubes (col. 2, lines 66-68), turbulence problems which cannot be

overcome because of "inner wall ridges" (col. 3, lines 5-7) and other such non-discharge areas (col. 3, lines 16-20) and related problems of deficiencies and designs of electrode shapes ("diameter width and length and gap" at (col. 3, lines 19-23). Hence, the teachings of Yamane dictate away from the alleged obviousness of reconstructing the Sequin device to have multiple discharge sections as in Yamane. Indeed, Yamane has no electromagnetic structures - - rendering the respective devices of Sequin and Yamane decidedly unrelated, and undermining any purported basis in the teachings of either, of modifying one in view of the other.

Claim 1 clearly, patentably distinguishes over Sequin and the rejection should be withdrawn. The dependent claims 2-6 inherit the patentable distinctions of independent claim 1 and introduce yet further patentably distinguishing recitations and for those further reasons, as well, distinguish over Sequin.

New, dependent gas laser oscillator claim 6/1 recites further components of the oscillator, as comprising an electric discharge section, specifying that the electric gas discharge section further comprises an electric discharge tube to which the power source is connected by electrodes located at opposite sides of the discharge tube so that an electric discharge will take place between opposite sides of the discharge tube, and the magnetic field applying means includes a coil wound around the electric discharge section and coil excitation means for causing current to flow in the coils, thereby producing a magnetic flux in an axial direction of the discharge section and producing an electric magnetic force acting on the electric discharge in a direction transverse to the direction of the electric discharge. No such structure of a gas laser oscillator is disclosed or even suggested by either of the references, taken singularly or in any combination.

#### **NEW INDEPENDENT METHOD CLAIM 7 AND DEPENDENT METHOD CLAIMS 8-12**

Method claim 7/1 and related dependent claim 8/7 respectively set forth the functional recitations of the respective, counterpart device claims 1 and 6/1 with regard to pumping the gas laser medium and changing at least one of an intensity in a direction of the magnetic field so as to change a lateral mode of an output of the gas laser oscillator. Dependent claims 9-12 similarly are method claim counterparts of device claims 2-5 and provide corresponding further patentable distinction over the references of record.

Accordingly, it is submitted that the rejections of claim 5 to should be withdrawn and that all of the pending claims 1-12 should be deemed allowed.

## CONCLUSION

It is respectfully submitted that the foregoing has demonstrated that all of the pending claims 1-12 patentably distinguish over the references, taking singularly or in any proper combination. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.


If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: February 28, 2006

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